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# New system monitors coping with climate change

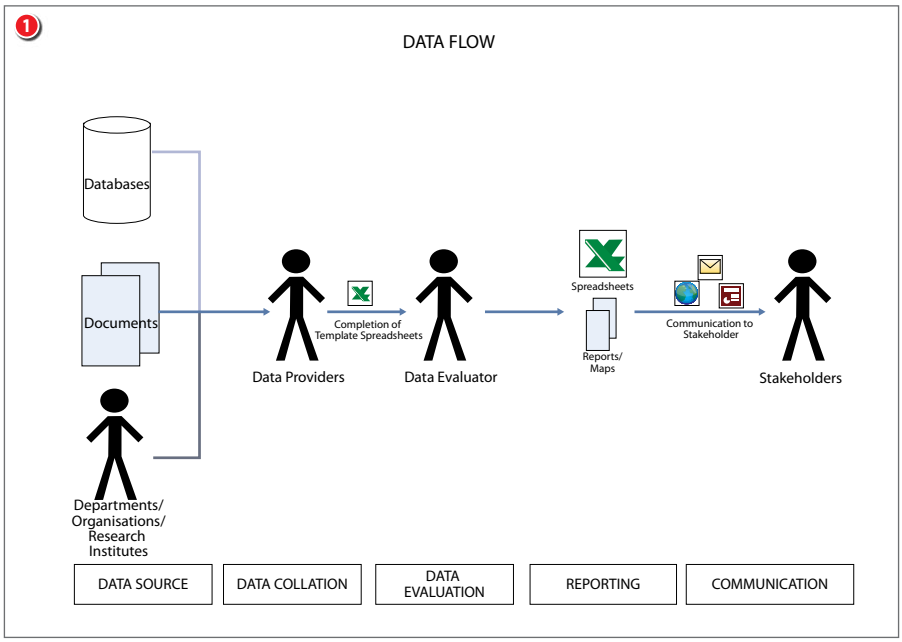
WESTERN CAPE MUNICIPALITIES and government departments, as well as property developers and others in the private sector, will soon be able to measure how effectively they are dealing with the impact of climate change.

A monitoring and evaluation system has been developed to establish an overall benchmark, and to measure annual progress in implementing a climate change strategy. It is considered a major step forward in implementing the Western Cape Climate Change Response Strategy and Action Plan and comes five years after a first phase study was undertaken to understand the complexity and the effects of climate change on the Western Cape and its residents.

The proposed monitoring and evaluation system has numerous indicators for each of four key outcome areas – water, land, carbon footprint mitigation, and research and monitoring. It will also ensure that climate change issues are included in key government service delivery programmes.

Recent crisis events in the Western Cape such as water shortages have all served to heighten awareness of potential impacts of climate change. Earth sciences consultancy, Umvoto Africa, facilitated the development of the system for the province's Department of Environmental Affairs and Development Planning.

The proposed system should provide clear signals to provincial departments, municipalities, civil society and the private sector regarding the provincial



government's focus on climate change response, sustainable development, environmental management and conservation imperatives.

The system, and its measurement indicators, should not be seen as a 'mechanical process that generates a simple good/average/bad result'. It should rather be a 'mechanism that encourages engagement and stimulates critical assessment of policies and practices'.

The report preparation included in-depth research and interviews plus workshops in Cape Town in February and April. These were attended by departmental directors and management from numerous government fields such as water, transport, planning, housing and environmental affairs.

The system became officially operational in May 2010. A review of the system is planned for later in the year, and relevant data collation and analysis will take place annually.

## DIVISION OF RESPONSIBILITIES (see Figure 1)

The main groupings of responsibilities in the monitoring and evaluation system are:

1. Process owner – ensures that indicators are regularly (annually) assessed as defined by the monitoring and evaluation process.
2. Data provider – collates data from various data sources into the relevant data capture template, and ensures that the completed template is sent to the data evaluator in the agreed time-frame.
3. Data evaluator – collates data from all the data providers, evaluates the data as defined by the monitoring and evaluation process, creates a report, and ensures that it is distributed to all stakeholders.
4. Stakeholders – review the final report and respond as appropriate.

## MONITORING AND EVALUATION PROCESS (see Figure 2)

The process owner is accountable for initiating each cycle of the monitoring and evaluation process according to the agreed time-frame.

**Process 1: Data capture**

The data capture process is the first step in the monitoring and evaluation cycle. It involves the collection of data by each data provider, and the central collation of all data from the data providers, by the data evaluator.

**Process 2: Data evaluation**

The data evaluator is responsible for undertaking the data evaluation process. This process includes the updating and/or development of graphs and figures, quantitative and qualitative analysis of data, and the application of a summary rating system on the data.

**Process 3: Reporting and communication**

The data evaluator is responsible for authoring the monitoring and evaluation report (including figures, report and a summary highlighting key focus areas using a defined rating system). The process owner is responsible for communication activities, including the distribution of the report to stakeholders for review.

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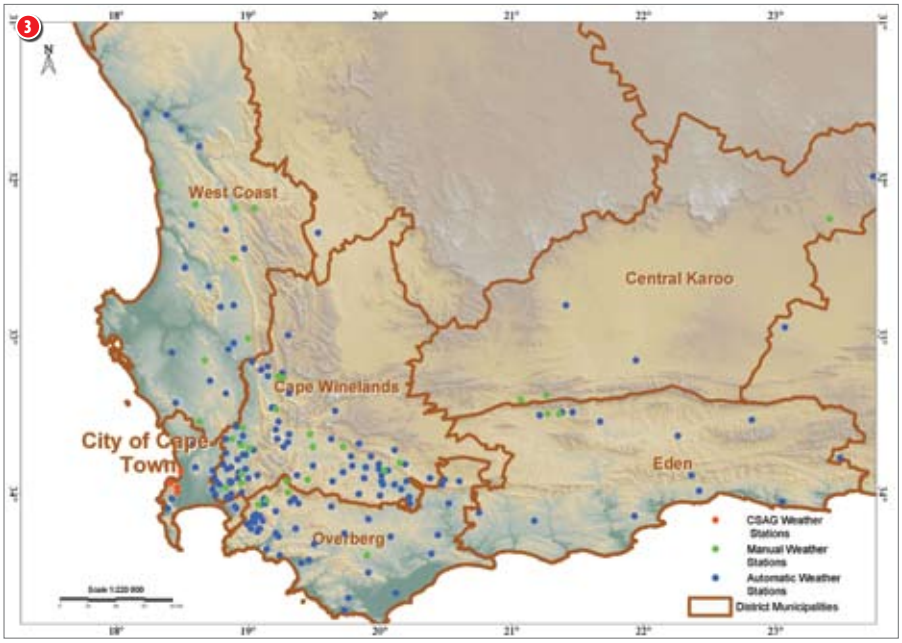
1 Data flow in one climate change monitoring and evaluation cycle
2 Flow chart showing the monitoring and evaluation process
3 Map showing the 2010 location of weather stations

2 MONITORING AND EVALUATION FLOW PROCESS

**Process 4: Review**
The final step of each monitoring and evaluation cycle is the review of the methodology and applicability of report outputs, based on feedback from the stakeholders, data evaluator and data providers. Recommendations can be categorised according to amendments to the statements of intent, key indicators, evaluation criteria and missing data.

The weakest link in the new system would be the ability to capture enough high-quality data. This would require external funding and inter-departmental cooperation. For more information please visit the following website: amanzi@umvoto.com

## Data flow chart

In order to evaluate the current status of climate change indicators, the relevant data for that indicator needs to flow from its primary source (database, document/report, or department/organisation), through a number of interim steps. This eventually leads to evaluated data in a final report, which would then be distributed to stakeholders. The graphic implicitly illustrates that data and information management is as much about people as it is about the necessary IT elements.

## Monitoring and evaluation process

Figure 2 illustrates the flow chart for one cycle of the monitoring and evaluation process. This is the overall process – each rectangle with a line segment near the top of the rectangle represents another process which is broken down into more detail using further flow charts and task descriptions.

## Data collation and analysis example

Data was collated from various sources in order to establish the baseline status for 2010. The map shows the current location of the Agricultural Research Council and Climate Systems Analysis Group weather stations in 2010. This data was used to perform a "Fit for Purpose" assessment of the spatial distribution for the current weather station network in terms of climate change monitoring requirements. □



Source:
http://www.saice.org.za/downloads/monthly_publications/2010/2010-Civil-Engineering-aug/#/0